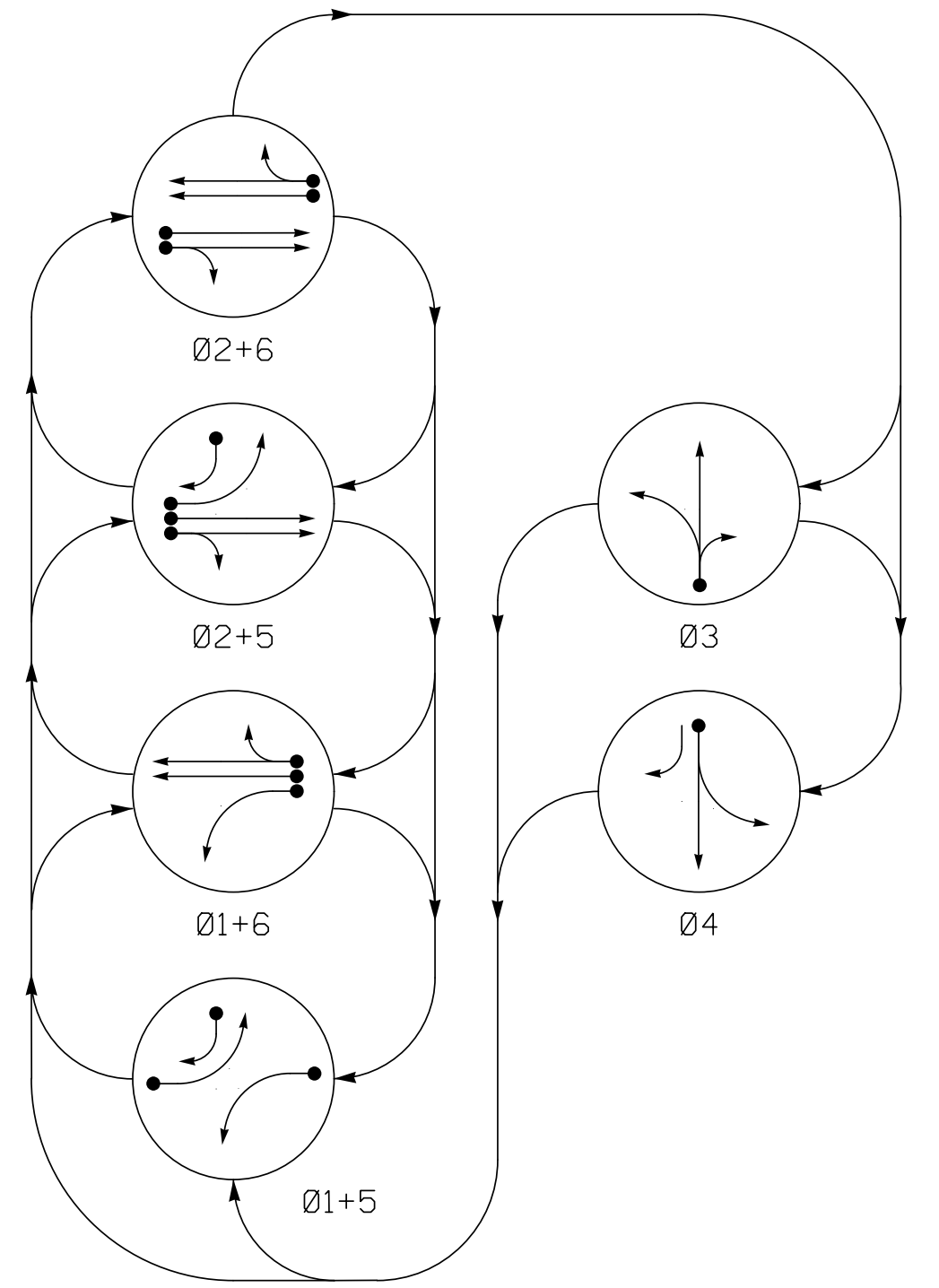


PHASING DIAGRAM

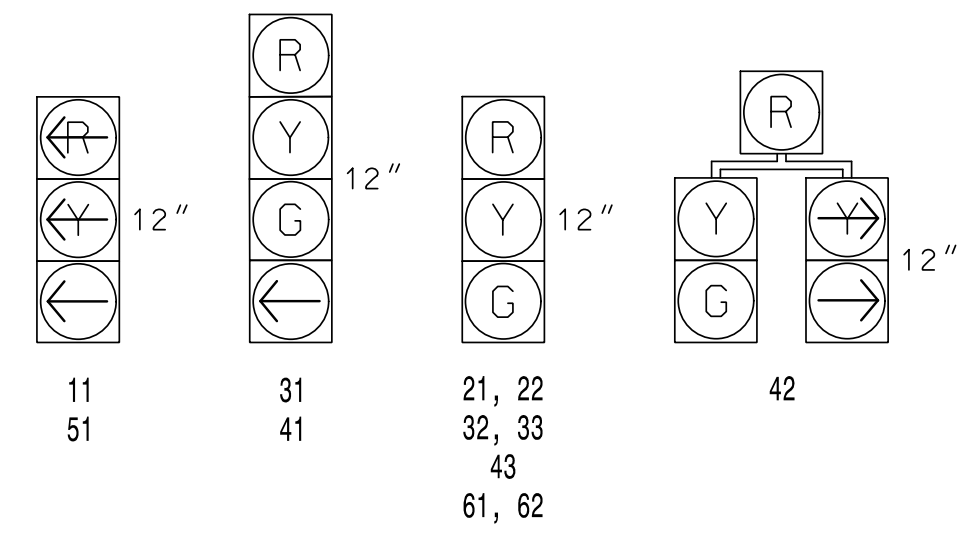


PHASING DIAGRAM DETECTION LEGEND

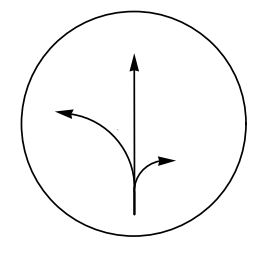
- ←●→ DETECTED MOVEMENT
- ←○→ UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- ←- - -> PEDESTRIAN MOVEMENT

SIGNAL FACE I.D.

All Heads L.E.D.



EV PREEMPT PHASES (Medium Priority)



PRE 3 (Ø3)

TABLE OF OPERATION

SIGNAL FACE	PHASE											
	Ø1+5	Ø1+6	Ø2+5	Ø2+6	Ø3	Ø4	P	F	H	S	F	
11	←	←	←	←	←	←	←	←	←	←	←	←
21, 22	R	R	G	G	R	R	R	R	Y			
31	R	R	R	R	G	R	G	R				
32, 33	R	R	R	R	G	R	G	R				
41	R	R	R	R	R	G	R	R				
42	R	R	R	R	R	G	R	R				
43	R	R	R	R	R	G	R	R				
51	←	←	←	←	←	←	←	←	←	←	←	←
61, 62	R	G	R	G	R	R	R	Y				
SIGN 'B'	*	*	*	*	*	*	*	OFF				

*Changeable Trailblazer Sign controlled remotely

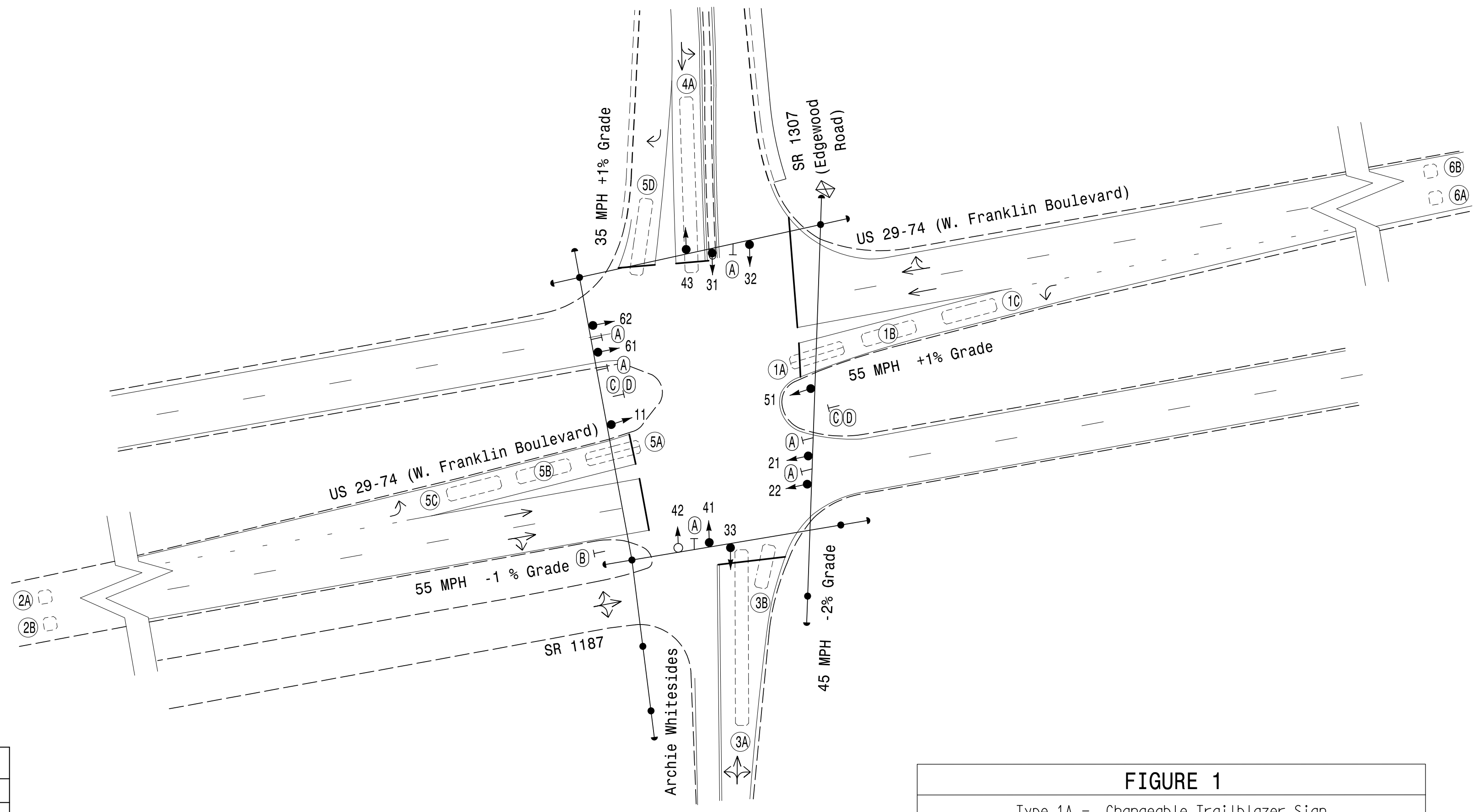
DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	PROGRAMMING								
				NEW LOOP	PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	SYSTEM LOOP	NEW CARD
1A	6X25	+5	2-4-2	-	1	Yes	-	-	-	N	-	Y
1B	6X25	30	EXIST	-	1	Yes	-	-	-	N	-	Y
1C	6X25	60	EXIST	-	1	Yes	-	-	-	N	-	Y
2A	6X6	420	EXIST	-	2	Yes	-	-	-	N	-	Y
2B	6X6	420	EXIST	-	2	Yes	-	-	-	N	-	Y
3A	6X80	+5	EXIST	-	3	Yes	-	10	-	N	-	Y
3B	6X20	+5	EXIST	-	3	Yes	-	10	-	N	-	Y
4A	6X80	+5	EXIST	-	4	Yes	-	-	-	N	-	Y
5A	6X25	+5	2-4-2	-	5	Yes	-	-	-	N	-	Y
5B	6X25	30	EXIST	-	5	Yes	-	-	-	N	-	Y
5C	6X25	60	EXIST	-	5	Yes	-	-	-	N	-	Y
5D	6X35	+5	EXIST	-	5	Yes	-	10	-	N	-	Y
6A	6X6	420	EXIST	-	6	Yes	-	-	-	N	-	Y
6B	6X6	420	EXIST	-	6	Yes	-	-	-	N	-	Y

6 Phase Fully Actuated Gastonia City System w/ Emergency Vehicle Preemption

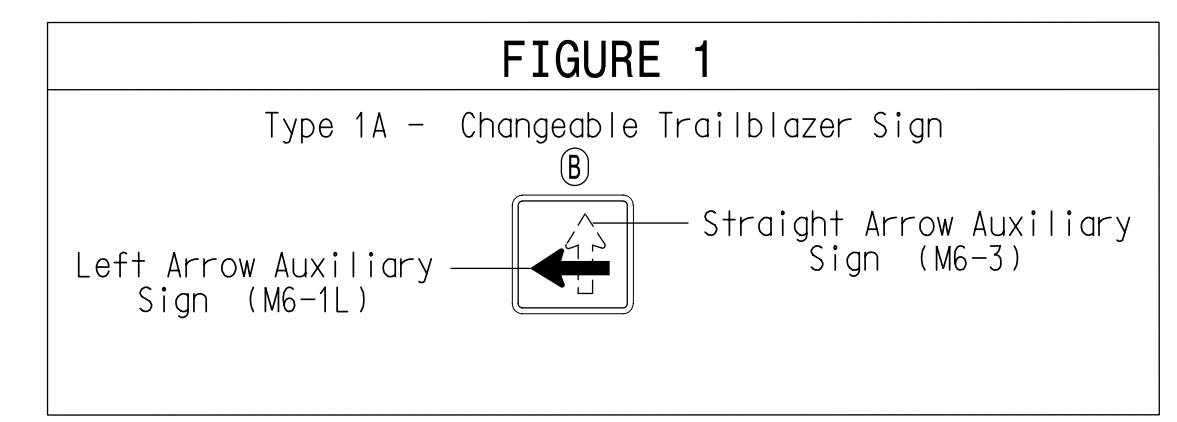
NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- The order of phase 3 and phase 4 may be reversed.
- Set all detector units to presence mode.
- In the event of loop replacement, refer to the current ITS and Signal Design Manual and submit a Plan of Record to the Signal Design Section.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Pavement markings are existing.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
- Existing loop 4B has been relabeled to 5D.
- Install new cabinet on the existing cabinet foundation.
- All new cabinets and base extenders shall be black in color. See Project Special Provisions for details.
- Install GPS emergency preemption system per manufacturer's instructions to achieve preemption needed, as shown in phasing diagram.
- City system data:
Controller Asset: #0157



LEGEND

- | PROPOSED | EXISTING |
|--|----------|
| ○ → Traffic Signal Head | ● → N/A |
| ● → Modified Signal Head Sign | |
| □ → Pedestrian Signal Head With Push Button & Sign | |
| □ → Signal Pole with Guy | |
| □ → Signal Pole with Sidewalk Guy | |
| □ → Inductive Loop Detector | |
| □ → Controller & Cabinet | |
| □ → Pull Box | |
| --- → 2-in Underground Conduit | |
| → → Directional Arrow | → → |
| (A) → Street Name Sign (Ø3-1) | (A) → |
| (B) → Type 1A Changeable Trailblazer sign (See Figure 1) | (B) → |
| (C) → Keep Right Sign (R4-7) | (C) → |
| (D) → Object Marker (ØM1-3) | (D) → |



3/9/2022 11:13:54 AM DanHill@Cur1 ***Kinley-Horn.com/SE-RAL/MRAL-TP/DK-LTS/K01036569 Gastonia Signal System9 Signal/WS4 - Signal Design/120157-2021.dgn

FEATURE	PHASE					
	1	2	3	4	5	6
Min Green *	7	14	10	10	7	14
Walk *	-	-	-	-	-	-
Ped Clear	-	-	-	-	-	-
Veh. Extension *	1.0	6.0	1.0	1.0	1.0	6.0
Max 1 *	25	120	60	75	25	120
Yellow	3.0	5.3	4.7	3.8	3.0	5.1
Red Clear	4.0	1.0	2.0	3.2	3.9	1.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0
Actuations B4 Add *	-	-	-	-	-	-
Seconds / Actuation *	-	1.5	-	-	-	1.5
Max Initial *	-	46	-	-	-	46
Time Before Reduction *	-	20	-	-	-	20
Time To Reduce *	-	40	-	-	-	40
Minimum Gap	-	3.4	-	-	-	3.4
Locking Detector	-	X	-	-	-	X
Recall Position	-	MIN RECALL	-	-	-	MIN RECALL
Dual Entry	-	-	-	-	-	-
Simultaneous Gap	X	X	X	X	X	X

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

EV PREEMPT	
FUNCTION	PRE 3
Exit Phase(s)	2+6
Preempt Override	OFF
Delay Time	0
Ped Clear Through Yellow	N
Terminate Phases	N
Entrance Walk	-
Entrance Ped Clear	-
Entrance Min Green	1
Entrance Yellow Change	25.5*
Entrance Red Clear	25.5*
Minimum Dwell Time	7
Preempt Input Extension Time **	2
Preempt Max Time	120
Exit Yellow Change	25.5*
Exit Red Clear	25.5*

* Time defaults to time used for phase during normal operation.
** Program Timing on GPS Detection Unit.

Signal Upgrade

Prepared For:
Kimley-Horn

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn
NC License #0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

US 29-74 (W. Franklin Boulevard) at SR 1307 (Edgewood Road / Archie Whitesides)

Division 12 Gastonia City System

PLAN DATE: May 2021 REVIEWED BY: SL Phillips

PREPARED BY: CF Davis REVIEWED BY: KP Baumann

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

3/11/2022